



European Union
European Regional
Development Fund

REMIX – 9th Peer review visit

Lapland

Joensuu, Finland, 9th PRV of REMIX on 13th of March 2019



REMIX
Interreg Europe

 European Union
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REMIX INTERREGIONAL LEARNING PROCESS



- **Based on good practices and peer reviews**
- **Impact only this programming period**
- **Link to policy instrument and IE programme Research and Innovation**
- **Full endorsement by regions**
- **Not a strategy**
- **“implementation oriented actions”**

LAPLAND

Split to two groups out of four

QUESTIONS - Lapland - Arctic Industry and Circular Economy Cluster

Industrial circular economy

What are the current industrial level circular economy activities in your region?

How are you or your organisation involved?

What are the materials/side-streams/industries you work with?

Any particular products your region is developing or producing from mining/metallurgy side-streams?

Is there any industrial scale pilots going? How are the pilots funded or how they should be funded?

Who is responsible for overall management of circular economy? What is the role of (1.) SMEs and (2.) large companies?

LAPLAND

Split to two groups out of four

QUESTIONS - Lapland - Arctic Industry and Circular Economy Cluster

SMEs support services for innovation in mining value chain
How are your region's SMEs supported to develop innovation?

Shortage and miss-match of skills* (including topics of digitalization and training/education)

What are the actions in your region for skills development for mining and metallurgy?

Is there any kind of training or education available in your region? If yes, what kind?

*Skills can mean: new technology or mineral specific knowledge (for instance valorization or exploration, digitalization) or business/export skills and orientation in whatever part of the value important to your region.



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LAPLAND –S3 Industrial Modernisation thematic partnership

Mining industry and global value chains

Joensuu, Finland, 9th PRV of REMIX on 13th of March 2019

Background of REMIX



The vision of the EC is to increase the self-sufficiency in the production of the critical minerals by the 2050 → **Need for innovations in EU in the fields of raw materials and mining (metallurgy)**

Implementing the resource efficiency agenda (circular economy) in order to tackle the major societal challenges.

Implementing the policies

- Communication between the policies
- Regions with the mineral resources have strategically important role in Europe while developing more sustainable mining industry
- Growth and Jobs agenda, SMEs.
- Balancing the impact - mining & sustainable development.



REMIX and MIREU were initiated by the Regional Council of Lapland (RCL) after discussions with DG GROW, in 2015, including EIP Raw Materials Commitment February 2016 lead by RCL:

- Regions involved started to work to improve raw materials value chain policies and are actively seeking synergies between regional development programmes and strategies such as smart specialisation (RIS3)
- **S3 Industrial Modernisation – Mining industry and global value chains**
- INTERREGIONAL COOPERATION



Lapland

in facts & figures



Employment

69,000 jobs

50% in private enterprises

9,100 private enterprises



Agricultural production & reindeer husbandry

€ 340 M

Annual revenue



Surface area

100,366 km²

Water



7,699 km²



Population

178,530

Population density

1.8 /km²



Mining & metal industry

€ 5,000 M

Annual revenue



Forest bioeconomy

€ 1,300 M

Annual revenue



Annual revenue

€ 13,300 M

70% from private enterprises

Fastest growing economy in Finland



Tourism

overall demand

€ 1,000 M

Fastest growing industry in Lapland

Annual growth 9%

20% in 2017

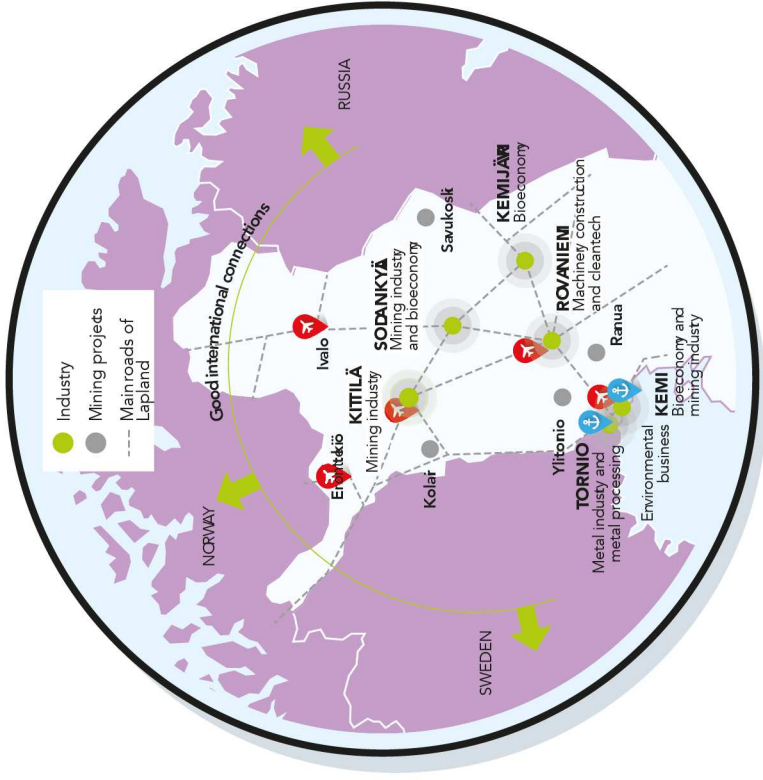
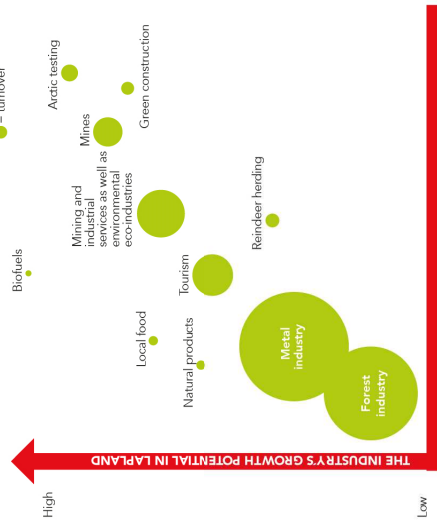


- + World's northernmost bio, mining and metal industry hub
- + Only chromium mine and the largest gold mine in Europe
- + 9 national parks in the area
- + World's cleanest air and Europe's purest water
- + World's largest wild organic harvesting area
- + Strong educational structure: University of Lapland, Lapland University of Applied Sciences, Lapland Education Centre KEDU and Sami Education Institute
- + Research institutes: Geological Survey of Finland (GTK), Natural Resources Institute Finland (LUKE), Sodankylä Geophysical Observatory (SGO) as the most notable
- + National circular and bio-economy centre in Kemi

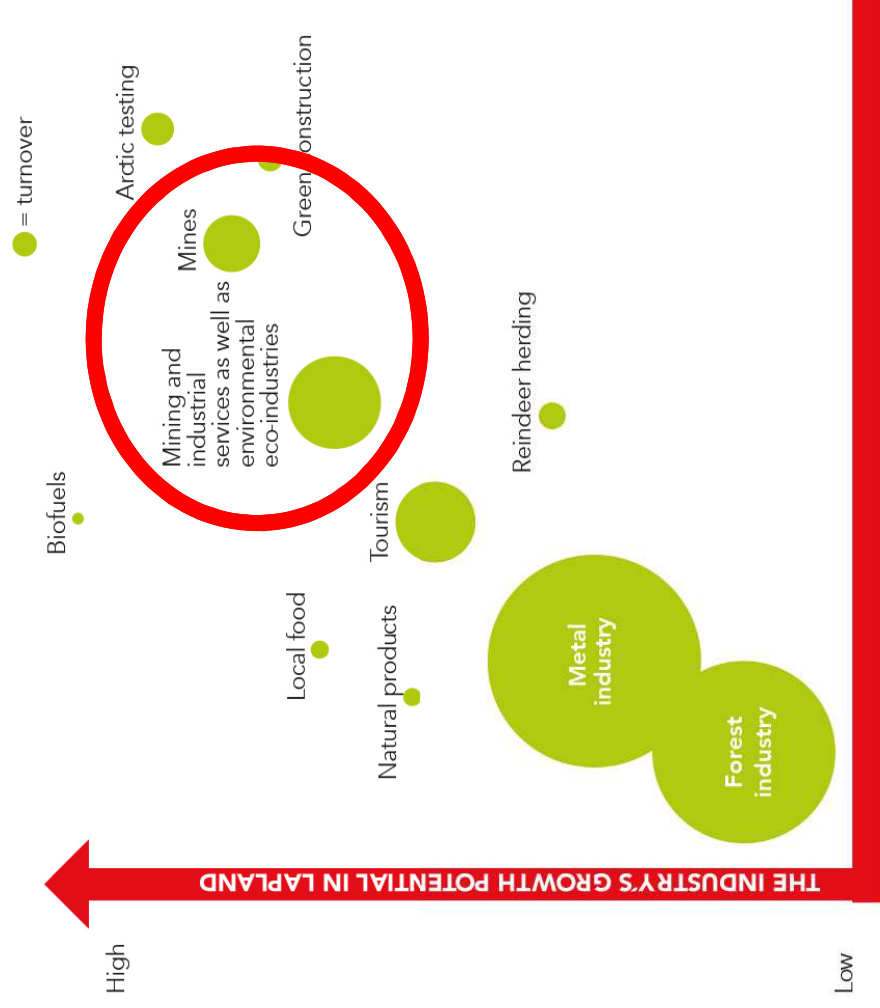
Main industries in Lapland



Growth potential of industries related to the Arctic business of Lapland



Growth potential of industries related to the Arctic business of Lapland





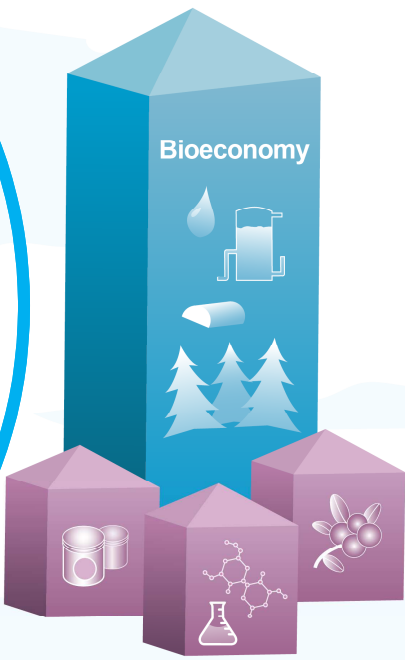
ECOSYSTEM OF ARCTIC INDUSTRY

Kemi-Tornio's circular economy innovation platform

- World's northernmost hub of bio-, mining-, metal industry and services
- 1,7 Mt of by-products and residues (excluding waste rock)
- Responsible for 80% of Lapland's industrial production, with over 5 billion EUR of exports annually (7-8 % of the total export value of Finland)
- Industrial symbiosis estimated at 700 million EUR annually



Lapland's economic backbone



New industries rising from the needs of the leading industries
Independent new industries emerging alongside the leading industries

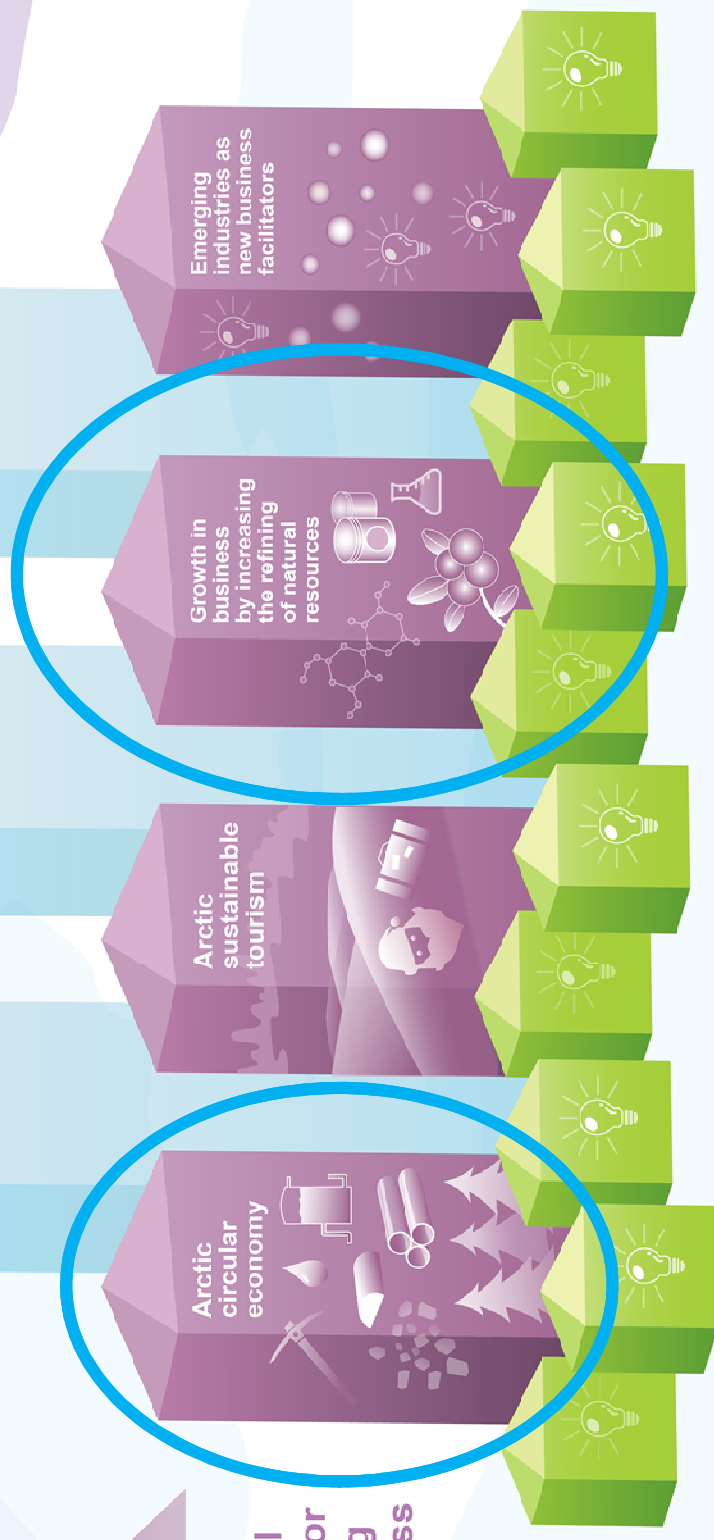
Creation and guidance of the next generation industries

**..more specific
industrial focus...**

**Three economic backbones of Lapland
underlying the emerging Arctic business**



**International
spearheads for
the emerging
Arctic business**



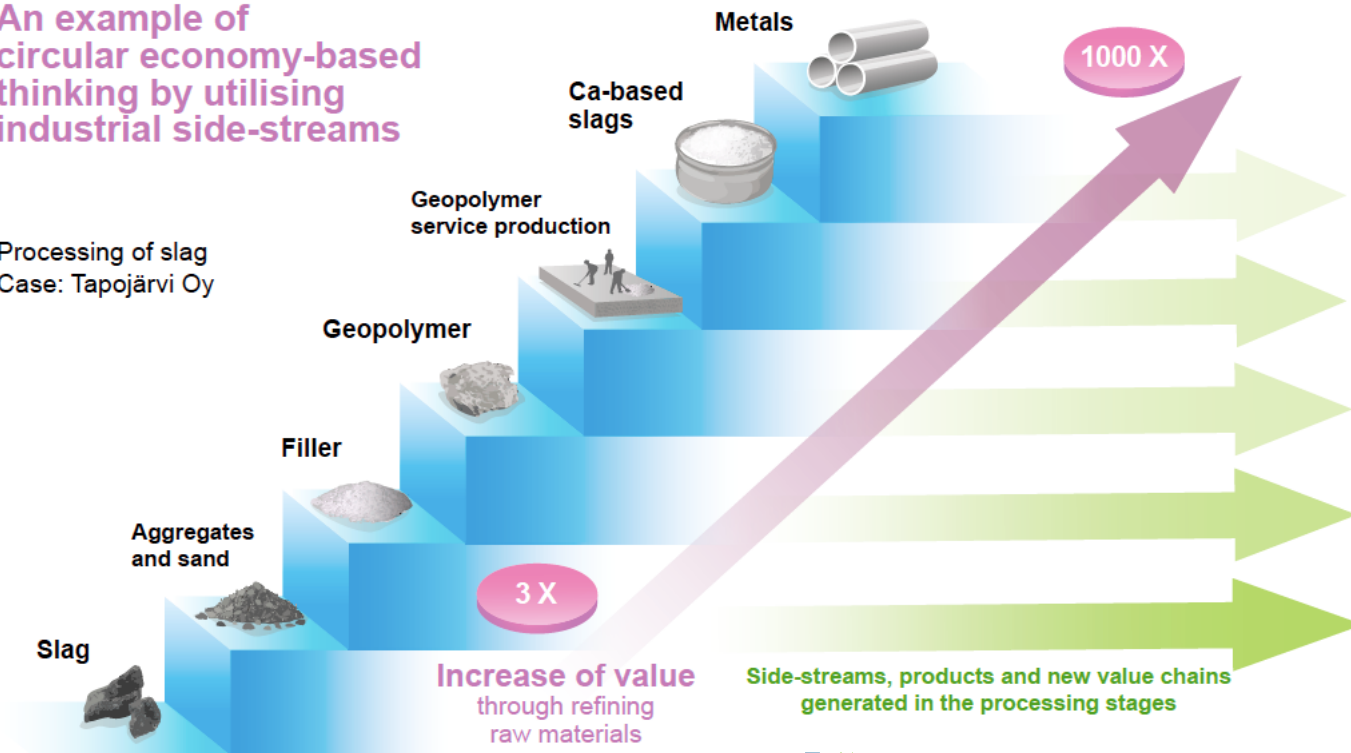
The new industries will emerge with the support of four strategic business spearheads

Smart specialisation in practice

**ARCTIC
INDUSTRY
AND CIRCULAR
ECONOMY**
CLUSTER

An example of
circular economy-based
thinking by utilising
industrial side-streams

Processing of slag
Case: Tapojärvi Oy





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Thank you!

Questions welcome



Project smedia

